



Title: **CPT Coding for Cardiac Catheterization  
and  
Coronary Arterial Intervention**

Session: **R-5-1000**



# National Coding Standards

- Sources of information
  - Centers for Medicare and Medicaid (CMS)
  - Provider Policy Manual 16.3 version (10/2010)
  - NCDs and LCDs from Medicare Administrative Contractors (MACs)
  - American Medical Association (AMA)
  - American College of Cardiology (ACC)
  - Heart Rhythm Society (HRS)
  - Society of Interventional Radiology (SIR)
  - Other MACs LCDs



# Change Adds to the Complexity

- Continuous changes in coding rules & regulations
  - CCI Edits, Pass Through Edits, MUEs (service unit edits)
  - CMS, NCD, LCD, Policy Manual, and Physician Society Coding Manual Descriptions and Revisions
  - HCPCS Level 2 Codes
    - GO275, GO278 (Non-selective renals or ilio-femorals at time of cath)
    - Hospital only G codes
      - G0290 (Drug Eluting Stent Placement, initial vessel)
  - Category 3 Codes
    - 0024T - DELETED 7/07, use unlisted code 93799
    - 0075T (Intrathoracic Common Carotid/Extracranial Vertebral Stent Placement, initial vessel, good until January 2015)
    - 0144T - 0151T (Cardiac CT Codes-DELETED 1/2010, now use 75571-75574)
    - 0256T - Endovascular placement of prosthetic aortic heart valve (1/11)
    - 0262T - Endovascular placement of prosthetic pulmonary valve (7/11)



software  
scrubbers

Everyone  
involved

Timing

- Multiple Service Locations in Hospitals
- Vascular Surgery
- Interventional Radiology
- Interventional Cardiology
- Interventional Nephrology

Knowledge

Systems

Work Process

**Bill**

Coding

CDM & Charging

Charge Master

HIM

Documentation

Techs

MDs  
Nurses  
Techs



# Recommendations for Physician Dictations of Cardiac Catheterization and Intervention

- State the history, medical necessity, reasons for repeat diagnostic study after prior Angio/CTA/MRA
- State the vascular access site(s)
- State the vessels catheterized, describing the catheter tip location, and any variant anatomy
- State heart pressures and chambers entered, injected, and imaged
- State the vessels injected, the areas imaged (for medical necessity) with interpretation of findings, along with specific documentation of degree stenosis and exact locations of the lesions treated
- State the interventions performed and any complications or additional treatments provided
- State the specific devices and specialty supplies used during the procedure



# Recommendations for Physician Dictations of Peripheral Interventions

---

- State the history, medical necessity, reasons for repeat diagnostic study after prior catheter angiography/CTA/MRA
- State the vascular access site(s)
- State the vessels catheterized, describing the catheter tip location, and any variant anatomy
- State the vessels injected, the areas imaged (for medical necessity), interpretation of findings, specific documentation of percentage stenosis, exact anatomic location of the lesions, and description of any normal vessels in between the stenoses
- State the interventions and adjunctive procedures performed. Also any complications or additional treatments provided
- State the specific devices and specialty supplies used during the procedure



# Diagnostic Catheterization for 2011

- 19 DELETED CARDIAC CATH CODES in 2011
  - 93501, 93508, 93510, 93511, 93514, 93524, 93526, 93527, 93528, 93529, 93539/40/41/42/43/44/45/55/56
- 20 ADDED CARDIAC CATH CODES FOR 2011
  - 93451-93464 and 93563-93568
- 8 CARDIAC CATH CODES UNCHANGED FOR 2011
  - 93503, 93505, 93530, 93531, 93532, 93533, 93561 and 93562



# Diagnostic Catheterization for 2011

- 3 codes for heart caths **without coronaries**. Rt, Lt, or Rt and Lt
- 2 codes for coronary angiography **without** a heart cath
- 3 codes for native coronary angiography with a heart cath
- 3 codes for graft angiography (includes natives) with a heart cath
- 3 add-on codes for injection procedures: right heart chambers, supraaortic aorta, and pulmonary arteries
- 3 add-on codes for: transapical or transseptal approach, drug administration with hemodynamics, and physiologic exercise study
- 3 add-on codes for use with congenital heart codes 93530-93533: native coronary angiography, graft angiography (including natives), and left atrial/ventricular injection and imaging
  - Still missing congenital left heart catheterization code





# Diagnostic Catheterization for 2011

- Only bill one primary cardiac catheterization code (93451-93461 or 93530-93533) per session.
- May bill “add-on” codes with primary heart cath codes
- Add on codes +93463, +93464, +93566, +93567 and +93568 can be billed with ANY of the heart cath procedures if performed. +93462 is not coded with congenital catheterization.
- Add on codes +93563, +93564 and +93565 can ONLY be billed with congenital heart caths.
- Codes for native coronary arteries, grafts, right or left atrial/ventriculography require selective catheter placements. Pulmonary artery and aorta do not.



# Diagnostic Catheterization for 2011

---

- All cardiac catheterization procedures include:
  - conscious sedation
  - sheath placement
  - catheter introduction, positioning and repositioning with the use of multiple catheters
  - recording of pressures in chambers and vessels (if done)
  - intracoronary arterial injection of medications
  - final evaluation and report
  - angiography for closure device placement and the actual closure device placement



# Diagnostic Catheterization for 2011

- Right heart catheterization – 93451 – includes:
  - Catheter placements in RA, RV, PA and wedge locations
  - Blood samples to determine blood gases and cardiac output, (including oxygen saturations, wedge pressures, thermodilution studies, etc.)
  - Right atrial or ventricular angiography is coded separately (+93566)
  - Pulmonary angiography is coded separately (+93568)
  - Do not additionally code Swan-Ganz catheter placement (93503) as right heart catheterization procedure uses this catheter as an integral component to perform the test (do not bill with any other diagnostic heart catheterization codes)
  - See codes 93456-7 if coronary angiography done
  - Use 93530 for congenital right heart catheterization



# Diagnostic Catheterization for 2011

- Left heart catheterization – 93452
  - Defined as left heart hemodynamics. Requires placement of a catheter into a systemic heart chamber (left ventricle or atrium)
    - Left ventricular systolic and end-diastolic pressures
    - Left ventricular injections and ventriculography bundled
    - Percutaneous or cut down technique
    - See codes 93458-9 if coronary angiography done
    - No specific code for congenital left heart catheterization



# Diagnostic Catheterization for 2011

- Right and left heart catheterization - 93453
  - Defined as right and left heart hemodynamics and requires catheter placements into right and left heart chambers
  - Right atrial or ventricular angio is coded separately (+93566)
  - Pulmonary angiography is coded separately (+93568)
  - Left ventriculography is bundled if performed
  - Do not additionally code Swan-Ganz catheter placement (93503) as right heart catheterization procedure uses this catheter as an integral component to perform the test
  - See codes 93460-61 if coronary angiography done
  - Use codes 93531-93533 for congenital right and left heart cath



# Diagnostic Catheterization for 2011

---

- Coronary angiography without heart cath
  - Coronary angiography - 93454
  - Coronary angiography with grafts - 93455
- Coronary angiography with right heart cath
  - Coronary angiography - 93456
  - Coronary angiography with grafts - 93457
- Coronary angiography with left heart cath
  - Coronary angiography - 93458
  - Coronary angiography with grafts - 93459



# Diagnostic Catheterization for 2011

- Coronary angiography with right & left heart cath
  - Coronary angiography - 93460
  - Coronary angiography with grafts - 93461
- Right chamber angiography - +93566 (add-on code)
- Supravalvular aortography - +93567 (add-on code)
- Pulmonary angiography - +93568 (add-on code)
- Do NOT bill +93563, +93564 or +93565 with above listed adult catheterization codes



# Diagnostic Catheterization for 2011

- Transseptal puncture via intact septum or transapical left ventricular puncture approach for left heart catheterization – +93462 (add-on code). Also use for EP ablations. Do not use with congenital heart cath.
- Drug administration to assess cardiac hemodynamics (e.g., inhaled nitric oxide) before, during, after, and repeat – +93463 (add-on code). **Do not** use for coronary artery drug administration. Only bill once per session.
- Physiologic study to assess cardiac hemodynamics (e.g., leg or arm exercise) before and after heart cath. +93464 (add-on code). Only bill once per session.





# Diagnostic Catheterization for 2011

- Congenital Heart Catheterization
  - Right heart catheterization only - 93530
  - Right & retrograde left - 93531
  - Right & transseptal left (intact) - 93532
  - Right & transseptal left (existing) - 93533
    - Once a patient has been diagnosed as a congenital cardiac patient, catheterization procedures are always considered congenital for coding purposes (including heart transplants)
    - Bicuspid aortic valve, patent foramen ovale, anomalous origin of coronary arteries and mitral valve prolapse are NOT congenital heart disease for coding purposes
  - Codes 93532 and 93533 include “with or without retrograde left heart catheterization”



# Diagnostic Catheterization for 2011

- Congenital Heart Catheterization add-on codes
  - Coronary angiography, congenital only - +93563
  - Coronary w/ bypass grafts, congenital only - +93564
  - Left atrial/ventriculography congenital only - +93565
  - Right atrial/ventriculography - +93566
  - Supravalvular aortography (ascending) - +93567
  - Pulmonary angiography - +93568
  - Nitric Oxide Study (pre and post studies) - +93463
  - Exercise Study (pre and post studies) - +93464



# Diagnostic Catheterization for 2011

---

- Injection of drugs directly into the coronary arteries are bundled (do not use +93463 or 37202)
- Venous infusions during coronary intervention are bundled (the drug may be billed separately). Do NOT use +93463 or 92977 with intervention
- Closure device angiography and placement is bundled with all cardiac catheterization procedures in 2011. **Do not** bill 75710, 75736, 75774 or G0278 for imaging related to closure device placement



# Diagnostic Catheterization

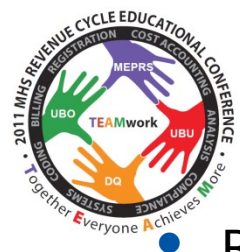
- Charge separately for intravascular Doppler (FFR)
- Charge separately for intravascular spectroscopy (0205T)
- Charge separately for intravascular ultrasound
- Charge separately for any coronary intervention
- Charge separately for RA/RV, Ao, and Pulmonary angiography
- Charge separately for transseptal or transapical approach, pharmacological or physiological testing with heart catheterization
- Charge separately for peripheral imaging S&I codes, catheter placements and interventions. (Use “G” codes for non-selective diagnostic renal and ilio-femoral angiography at the time of cardiac catheterization unrelated to closure device placements)



# Diagnostic Catheterization Case 1:

---

- PROCEDURE: A 6 Fr sheath is placed in the right femoral artery. Selective coronary angiography is performed followed by selective left internal mammary angiography and selection of 3 vein bypass grafts. An angulated pigtail is used for left heart cath and ventriculography. Aortography is performed with the same catheter to evaluate for aortic valve disease. Peripheral angiogram is performed. A closure device is placed.



# Diagnostic Catheterization Case 1:

## RESULTS:

- LC : 90% left main proximally. There is 60% stenosis of the LC.
- LD: Occluded at its origin.
- RC: 99% origin stenosis. 20-30% stenosis is seen distally in the PDA.
- IMA(left): Patent proximally and distally.
- Vein grafts: LC and diagonal are occluded. Graft to the RCA is widely patent.
- LEFT HEART CATH and VENTRICULOGRAPHY: Systemic pressures are normal. No systolic gradient across the aortic valve. LVED is 15. EF is 35% with decreased septal wall motion.
- Aorta: Aortic root is dilated, but there is no aneurysm or aortic valve reflux.
- PERIPHERAL ANGIOGRAM: This is done through the short 6 French introducer and shows the introducer entering the mid common femoral artery. No significant iliac or femoral vascular disease is seen. A percutaneous closure device is placed.



# Diagnostic Catheterization Case 1 Codes:

---

## Year 2010

- 93510 – Left heart catheterization
- 93539 – Selective IMA injection
- 93540 – Selective Saphenous Vein Graft injection
- 93543 – Left ventricular injection
- 93544 – Aortic root injection
- 93545 – Coronary artery injection (native)
- 93555 – Imaging S&I, ventricular and/or atrial angiography
- 93556 – Imaging S&I, pulmonary angiography, aortography, and/or selective coronary angiography including venous bypass grafts and arterial conduits
- G0269 – Closure device placement

## Year 2011

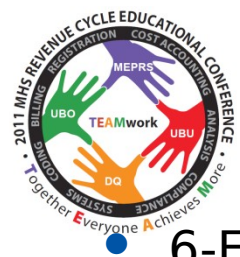
- 93459 – Coronary angiography, native and grafts, with LHC, with LV angiogram if performed. Closure device imaging and placement bundled.
- 93567 – Supravalvular aortography



# Diagnostic Catheterization Case 2:

- BRIEF HISTORY: A 62-year-old lady who was admitted because of worsening chest pain with EKG changes of ischemia
- PROCEDURE:
  - Left heart catheterization
  - Right heart catheterization
  - Coronary arteriography
  - Left ventriculography
  - Cardiac output examination
- TECHNIQUE: Using a modified Seldinger technique, sheaths are placed in both the right common femoral vein and artery





# Diagnostic Catheterization Case 2 (continued):

- 6-French Judkins catheters are placed in the right and left coronary arteries for coronary angiography in multiple projections. A pigtail catheter is placed into the left ventricle with ventriculography done. The patient has severe left main disease requiring surgery; therefore, it is decided to do a right heart catheterization also. Right heart pressures, pulmonary pressures, oxygenations, cardiac output and index are performed. Right atrial injection along with selective R & L pulmonary angiography performed due to low oxygenations suggesting R to L shunt.
- RCA: 70% lesion in the proximal RCA. 90% lesion in the proximal PDA.
- Left Main: There is an ostial lesion present; this is about 80%.
- LC: There is an 80% lesion seen in the first obtuse marginal.
- LD: There is a long 80% lesion seen in the proximal portion.
- RIGHT ATRIAL ANGIOGRAPHY: No evidence of right to left shunt.
- PULMONARY ANGIOGRAPHY: No evidence of pulmonary artery fistula.
- VENTRICULOGRAPHY: Left ventriculography shows normal size and normal contraction of the left ventricle present. EF is 40%.



# Diagnostic Catheterization Case 2 Codes:

---

## 2010 Codes

- 93526 – Left and right heart catheterization
- 93541 – Pulmonary artery injection
- 93542 – Right atrial injection
- 93543 – Left ventricular injection
- 93545 – Coronary artery injection (native)
- 93555 – Imaging S&I, ventricular and/or atrial angiography
- 93556 – Imaging S&I, pulmonary angiography, aortography, and/or selective coronary angiography including venous bypass grafts and arterial conduits

## 2011 Codes

- 93460 – Coronary angiography, with Right and Left heart catheterization, with left ventriculography
- 93566 – Right atrial angiography
- 93568 – Pulmonary angiography



# Peripheral and Heart Catheterization Case 3:

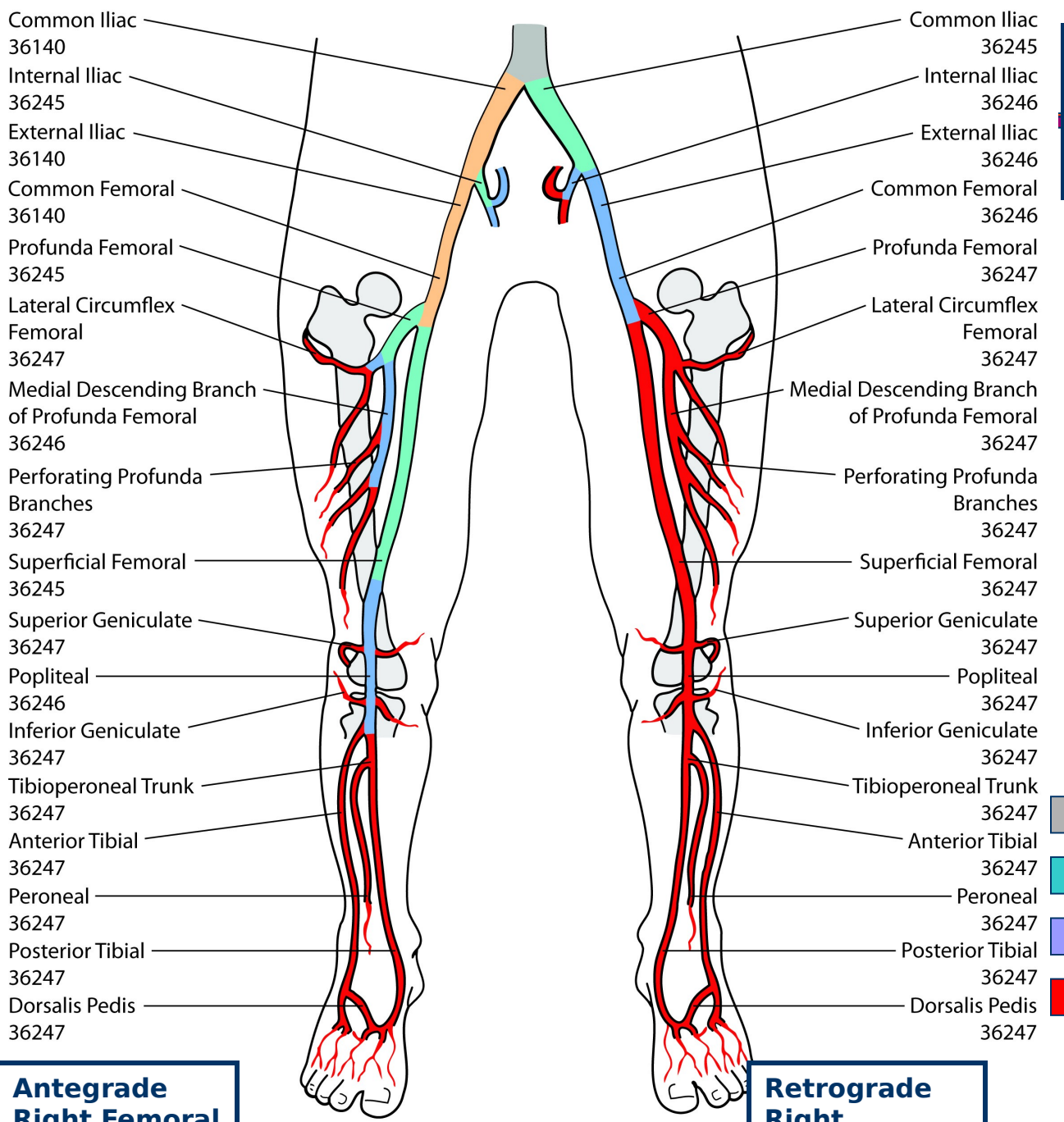
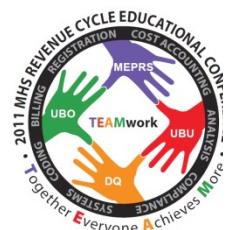
---

- History: Abnormal stress test, angina, bilateral 1-block calf claudication
  - Left heart catheterization with ventriculography
  - Coronary angiography
  - Bilateral selective lower extremity angiography
  - Right femoral access with perclose placement
- Left heart catheterization. Via right femoral puncture, a catheter is advanced to the ascending aorta. Ventriculography is performed using power injection of contrast agent. Pressures in the left heart were obtained.
- Coronary angiography. A catheter is advanced to the right and left coronary arteries for selective native vessel imaging.



# Peripheral and Heart Catheterization Case 3:

- Peripheral angiography: A catheter is placed over the horn into the left common iliac. Selective imaging of the left leg to the foot is performed. The catheter is pulled back to the right iliac and imaging of the right leg performed.
- Lower extremities: There are minor luminal irregularities due to atherosclerosis in the left iliac artery. Both superficial femoral arteries are occluded above Hunter's Canal. The proximal left popliteal is widely patent but occludes in the distal portion. A short proximal left PFA stenosis of 90% is also noted. Trifurcations are patent bilaterally.
- Intervention: Guiding catheter is advanced to the contralateral mid to distal left SFA (via the right femoral sheath). This lesion is treated with laser atherectomy. Due to 50% residual stenosis, a self-expanding stent is placed. The popliteal occlusion is crossed with a Lumend device, followed by balloon angioplasty (4mm) but this promptly occludes requiring placement of a 5mm Viabahn stent. The proximal PFA stenosis is treated with 4mm angioplasty alone. Perclose is placed.

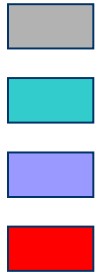


**Lower  
Extremity  
Arterial  
Anatomy**

**Right  
Transfemoral  
Approach**

**Antegrade  
Right Femoral  
Approach**

**Retrograde  
Right  
Femoral  
Approach**



**Non-selective**  
**First order**  
**Second order**  
**Third order**



# Peripheral & Heart Catheterization Case 3

## 2010 Codes:

---

- 93510 – Left heart catheterization
- 93543 – Left ventriculogram
- 93545 – Coronary angiogram
- 93555 – Imaging S&I, ventriculogram
- 93556 – Imaging S&I, coronary angiogram
- 75716-59 – Bilateral extremity arteriogram, S&I
- 36247-59LT – 3rd order select below diaphragm (Contralateral SFA)
- 36248-LT – Additional 2nd or 3rd order (Contralateral PFA)
- 35474/75962 – Left Proximal PFA angioplasty
- 35493/75992 – Left SFA laser atherectomy
- 37205/75960 – Left SFA self-expanding stent placement
- 35474-59/75964 – Left Popliteal balloon angioplasty
- 37206/75960-59 – Left Popliteal covered stent placement
- G0269 – Placement of closure device



# Peripheral & Heart Catheterization Case 3

## 2011 Codes:

---

- 93458 – Coronary angiography with left heart cath, including left ventriculography
- 75716-59 – Bilateral extremity arteriogram, S&I
- 37227 – SFA/PFA/Popliteal artery angioplasty, atherectomy and stent placement (includes all three types of interventions in any or all of the femoral popliteal vessels, includes all catheter placements for these vessels, includes closure device placement)
- (19 codes in 2010 become 3 codes in 2011 in this unusual case)



# Percutaneous Valve Replacement 2011

- 0256T: Implantation of catheter-delivered prosthetic aortic heart valve, endovascular approach (Partner's Trial)
- 0257T: open thoracic approach (e.g., transapical, transventricular, report the exposure with 0258T or 0259T)
- 0258T: Transthoracic cardiac exposure for catheter-delivered aortic valve replacement; without cardiopulmonary bypass
  - 0259T: with cardiopulmonary bypass
- Diagnostic cardiac catheterization IS separately reportable
- Temporary pacemaker, catheter placements, routine imaging, guidance and reporting are all bundled. Swan-Ganz catheter placement (93503) and aortic valvuloplasty (92986) are bundled also.
- These codes expire January 2016





# Percutaneous Valve Replacement 2011

- 0262T Implantation of catheter-delivered prosthetic pulmonary valve, endovascular approach. (MELODY VALVE). Implemented July 1, 2011.
- 0262T includes all congenital cardiac catheterization(s), intraprocedural contrast injection(s), fluoroscopic radiological supervision and interpretation, and imaging guidance performed to complete the pulmonary valve procedure.
- Do not report 0262T in conjunction with 76000, 76001, 93563, 93566-93568, 93530).
- 0262T includes percutaneous balloon angioplasty/valvuloplasty of the pulmonary valve/conduit. Do not report 0262T with 92990.
- 0262T includes stent deployment within the pulmonary conduit. Do not report 37205, 37206, 75960 for stent placement within the pulmonary conduit.
- Report 92980, 92981, 37205, 37206, 75960 separately when cardiovascular stent placement is performed at a site separate from the prosthetic valve delivery site.
- Report 92997, 92998 separately when pulmonary artery angioplasty is performed at a site separate from the prosthetic valve delivery site



# Lower Extremity Endovascular Revascularization

Angioplasty  
Atherectomy  
Stent Placement



# Peripheral Interventions Agenda

---

- Lower Extremity Endovascular Revascularization
- Non-Lower Extremity Angioplasty, Atherectomy, and Stent Placement



# Lower Extremity Endovascular Revascularization

- CPT codes 37220-37235 describe the use of endovascular techniques for lower extremity revascularization
- The endovascular techniques described by these codes include angioplasty, atherectomy, and stent placement
- Angioplasty is included in all these codes
- The procedures may be performed using percutaneous and/or open techniques
- The clinical indication is treatment of occlusive vascular disease
- Separately reportable procedures include thrombolysis (37201, 75896), thrombectomy (37184, 37185, 37186) and embolization procedures (37204, 75894, 75898)



# Lower Extremity Endovascular Revascularization

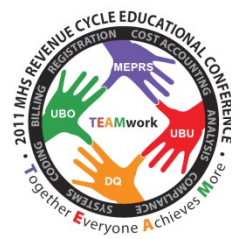
---

- Angioplasty uses a balloon to dilate a “hemodynamically significant” vessel stenosis. This includes use of a compliant or non-compliant balloon, a cryoplasty balloon, or a cutting balloon
- Atherectomy is performed using photoablation (laser), rotational (Rotoblater, Diamondback Orbital), or directional cutting (Silver Hawk) devices
- Stent placement uses bare metal, drug-eluting, balloon-expandable, self-expanding, or covered stents to effectively treat a stenosis



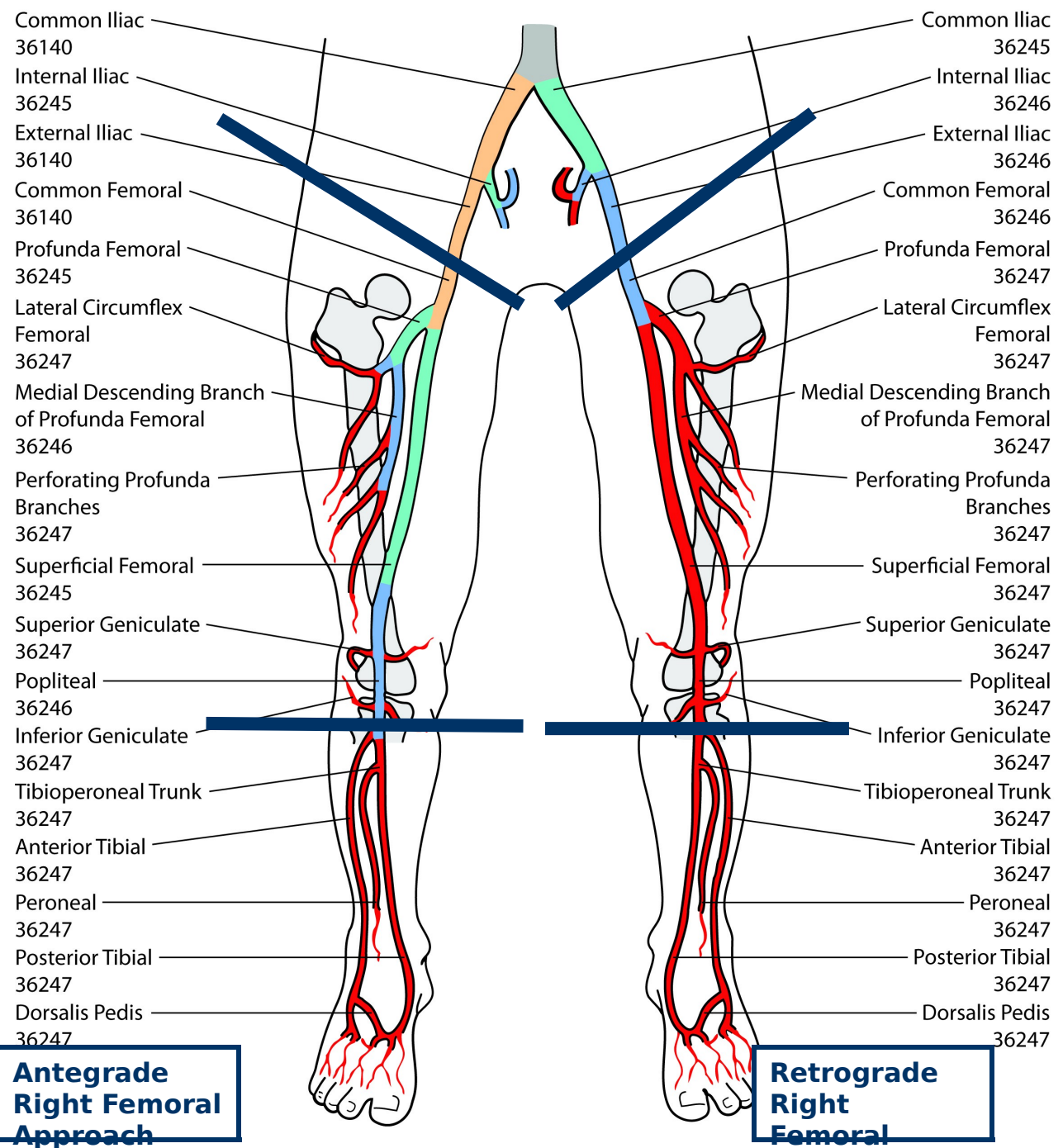
# Lower Extremity Endovascular Revascularization

- These codes are specific for 3 distinct lower extremity vascular territories: the iliac, femoral/popliteal and tibial/peroneal.
- There are 3 separately billable arteries in the iliac territory: the common, external, and internal iliac arteries.
- There is only 1 separately billable artery in the femoral/popliteal territory. This includes the common femoral, superficial femoral, profunda femoral, and popliteal arteries treated as a single vessel for coding purposes.
- There are 3 separately billable arteries below the knee: the peroneal, anterior tibial (which includes the dorsalis pedis artery), and the posterior tibial (which includes the medial malleolar artery). The tibial/peroneal trunk is considered part of any distal intervention.



# Lower Extremity Arterial Anatomy

## Right Transfemoral Approach



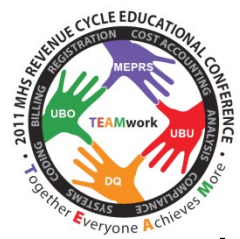
- Non-selective**
- First order**
- Second order**
- Third order**



# Lower Extremity Endovascular Revascularization

- Codes 37220-37235 are applicable to both open or percutaneous approach and include closure of the open or percutaneous access site with stitches, pressure, or device placement (do not bill G0269).
- These codes include conscious sedation, vascular access, all catheter placements in the same vascular family the intervention is performed in, and work involved with crossing the lesion (including use of specialty guidewires, subintimal recanalization, radiofrequency or ultrasonic vibration wires/catheters, etc.).
- They also include imaging related to the entire procedure (no S&I code), use of an embolic protection device, angioplasty (if done), and closure device angiography.
- Atherectomy bundling for codes 37220-37235 only applies to infra-inguinal arteries. Use Category III code 0238T for separate supra-inguinal iliac artery atherectomy.





# Lower Extremity Endovascular Revascularization

- Diagnostic angiography IS separately coded at the time of these interventions if:
  - There has not been a prior catheter based angiogram and a complete study is performed **and the decision for intervention is based on this angiographic study**
  - There is a prior study, but
    - There is change in clinical status since prior study
    - The prior study was inadequate for visualization of the area of concern
    - There is change in the clinical status during the intervention that requires imaging outside the area treated



# Lower Extremity Endovascular Revascularization

- Diagnostic angiography IS NOT separately coded at the time of these interventions if:
  - The angiography is included in the interventional procedural code description.
  - Performed for vessel measurement and sizing, lesion localization, roadmapping, and consists of contrast injections and imaging relating to guidance necessary to perform the intervention.
  - Follow-up after angioplasty, atherectomy, stent placement, thrombectomy, etc.



# Lower Extremity Endovascular Revascularization

- Code 1 intervention per vessel treated (the entire femoral/popliteal territory is considered a single vessel).
- Code the highest level of intervention in that territory as the “initial” intervention. Other vessel interventions in the same territory are coded with “additional” interventional codes. (The femoral/popliteal territory does not have initial as it is only one vessel).
- All interventions within a single vessel are always coded with a single interventional code (except iliac atherectomy).
- Code each territory separately. Use the “initial” code for the highest level intervention in each iliac and tibial/peroneal territory. These are unilateral codes.
- Use -59 to modify interventions in the same territory but in the opposite leg. Modifier -50 may be appropriate. Discuss with your payer.



# Lower Extremity Endovascular Revascularization

- Codes 37220-37235 describe either angioplasty alone, atherectomy w or w/o angioplasty, stent placement w or w/o angioplasty and stent placement and atherectomy w or w/o angioplasty.
- The femoral/popliteal and tibial/peroneal territory codes incorporate atherectomy procedures. The iliac territory does not.
- The iliac territory codes only describe angioplasty and stent placement w or w/o angioplasty. Iliac atherectomy is additionally coded per vessel treated with Category III code 0238T.



# Lower Extremity Endovascular Revascularization

- A maximum of 1 initial and 2 additional interventions can be performed in a unilateral iliac system, 1 intervention in the femoral/popliteal system, and 1 initial and 2 additional interventions in the tibial/peroneal system
- “Bridging” lesions are code as a single vessel intervention, even if the lesion is bridging into another arterial territory
- The coding is built on an increasing hierarchy of complex interventions performed. Stent placement with atherectomy > atherectomy > stent placement > angioplasty alone. This applies to tibial/peroneal vessel interventions.
- All interventions include an angioplasty if done
- There are 4 iliac, 4 femoral/popliteal and 8 tibial/peroneal artery endovascular revascularization codes



# Iliac Artery Endovascular Revascularization

- 37220 – Iliac angioplasty, initial vessel
- 37221 – Iliac stent, initial vessel
- 37222 – Iliac angioplasty, additional vessel
- 37223 – Iliac stent, additional vessel
- 0238T – Iliac atherectomy, each vessel, (bill separately)
  - Use 1 initial vessel and up to 2 additional vessel interventions if done. Use -59 modifier for an initial intervention in the contralateral iliac arteries.



# Femoral/Popliteal Endovascular Revascularization

- 37224 – Fem/pop system angioplasty
- 37225 – Fem/pop system atherectomy
- 37226 – Fem/pop system stent placement
- 37227 – Fem/pop system stent placement with atherectomy
  - Only submit 1 of the above codes per extremity. Use -59 modifier for an intervention in the contralateral femoral/popliteal arteries.



# Tibial/Peroneal Artery Endovascular Revascularization

---

- 37228 – Tibial/peroneal angioplasty, initial vessel
- 37229 – Tibial/peroneal atherectomy, initial vessel
- 37230 – Tibial/peroneal stent placement, initial vessel
- 37231 – Tibial/peroneal stent placement with atherectomy
  - Only submit 1 of the above codes per extremity. Use -59 modifier for an initial intervention in the contralateral tibial/peroneal arteries.





# Tibial/Peroneal Artery Endovascular Revascularization

---

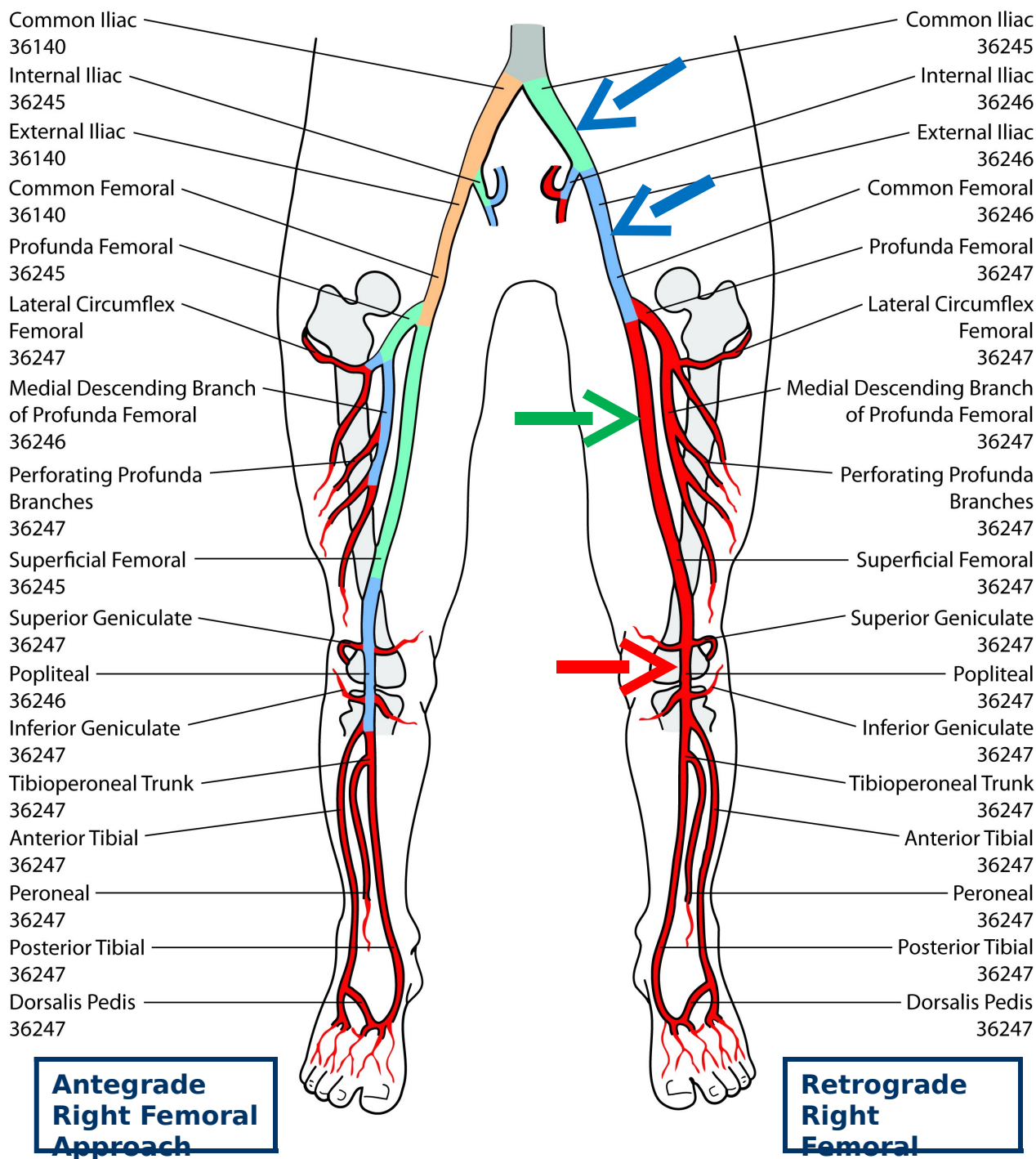
- 37232 – Tibial/peroneal angioplasty, each add. vessel
- 37233 – Tibial/peroneal atherectomy, each add. vessel
- 37234 – Tibial/peroneal stent placement, each add. vessel
- 37235 – Tibial/peroneal stent placement and atherectomy, each additional vessel
  - List up to 2 additional codes separately in addition to the initial vessel code per extremity. Use -59 modifier for an initial intervention in the contralateral tibial/peroneal arteries.



# Case #1

- Patient with left leg pain. Via right femoral approach, selective complete bilateral lower extremity run-off is performed with catheter placement in the left common iliac and via sheath. A 90% stenosis of left common and a separate 80% left external iliac stenosis is present. The SFA shows 70-80% diffuse disease with a separate short segment occlusion of the popliteal artery. The tibial/peroneal arteries are widely patent. Angioplasty is performed in the common and external iliac, SFA and popliteal arteries with stent placement required in the popliteal for 80% residual stenosis after the angioplasty alone.

# Lower Extremity Arterial Anatomy Right Transfemoral Approach

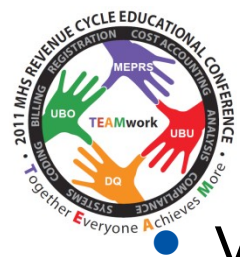




# Case #1 Answer

---

- 75716-59 – Bilateral lower extremity diagnostic angiography
- 37220 – Common iliac angioplasty, initial vessel
- 37222 – External iliac angioplasty, additional vessel
- 37226 – Femoral/popliteal stent placement (includes angioplasty)

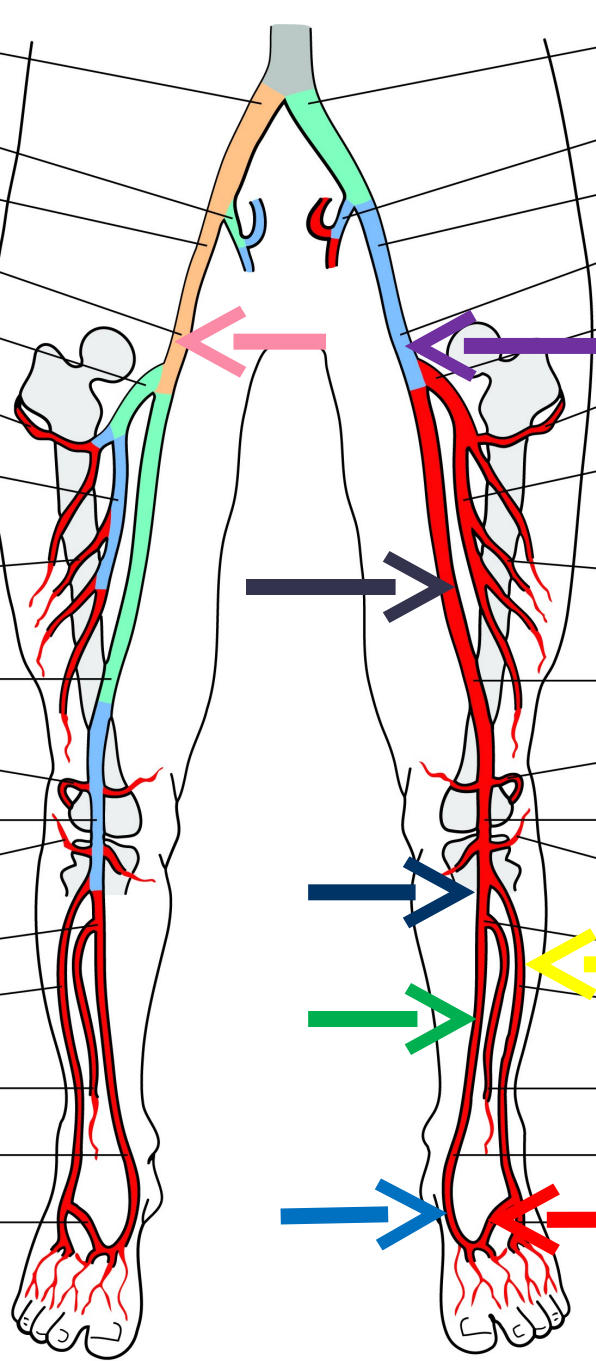


## Case #2

- Via right femoral approach, catheter placement into the contralateral left common femoral artery with left leg run-off, with right leg runoff via the sheath. New left antegrade CFA puncture with left SFA angioplasty of a 5cm occlusion. This required a covered stent placement due to 70% residual stenosis. Laser atherectomy is performed in the mid popliteal artery. Post laser angioplasty was necessary. The tibial/peroneal-trunk, mid posterior tibial, and medial malleolar arteries had stenoses and occlusions treated with laser atherectomy. The mid and distal anterior tibial, along with the dorsalis pedis arteries were also treated with laser for similar disease. Adjunctive angioplasty is performed in all 5 vessels after the atherectomy. Stent placement is necessary in the tibial/peroneal trunk for flow-limiting dissection.

Common Iliac 36140  
Internal Iliac 36245  
External Iliac 36140  
Common Femoral 36140  
Profunda Femoral 36245  
Lateral Circumflex Femoral 36247  
Medial Descending Branch of Profunda Femoral 36246  
Perforating Profunda Branches 36247  
Superficial Femoral 36245  
Superior Geniculate 36247  
Popliteal 36246  
Inferior Geniculate 36247  
Tibioperoneal Trunk 36247  
Anterior Tibial 36247  
Peroneal 36247  
Posterior Tibial 36247  
Dorsalis Pedis 36247

**Antegrade Right Femoral Approach**



**Retrograde Right Femoral Approach**

Common Iliac 36245  
Internal Iliac 36246  
External Iliac 36246  
Common Femoral 36246  
Profunda Femoral 36247  
Lateral Circumflex Femoral 36247  
Medial Descending Branch of Profunda Femoral 36247  
Perforating Profunda Branches 36247  
Superficial Femoral 36247  
Superior Geniculate 36247  
Popliteal 36247  
Inferior Geniculate 36247  
Tibioperoneal Trunk 36247  
Anterior Tibial 36247  
Peroneal 36247  
Posterior Tibial 36247  
Dorsalis Pedis 36247

**Lower Extremity Arterial Anatomy Right Transfemoral Approach**

**Non-selective**  
**First order**  
**Second order**  
**Third order**



## Case #2 Answer

- 75716-59 – Bilateral lower extremity angiography, S&I
- 36246-59 – Contralateral left CFA catheter placement
- 37227 – SFA stent and popliteal atherectomy with angioplasty
- 37231 – Posterior tibial atherectomy with TP trunk stent
- 37233 – Anterior tibial atherectomy, includes angioplasty
- Medial malleolar intervention is part of the posterior tibial, and the dorsalis pedis intervention is part of the anterior tibial artery intervention



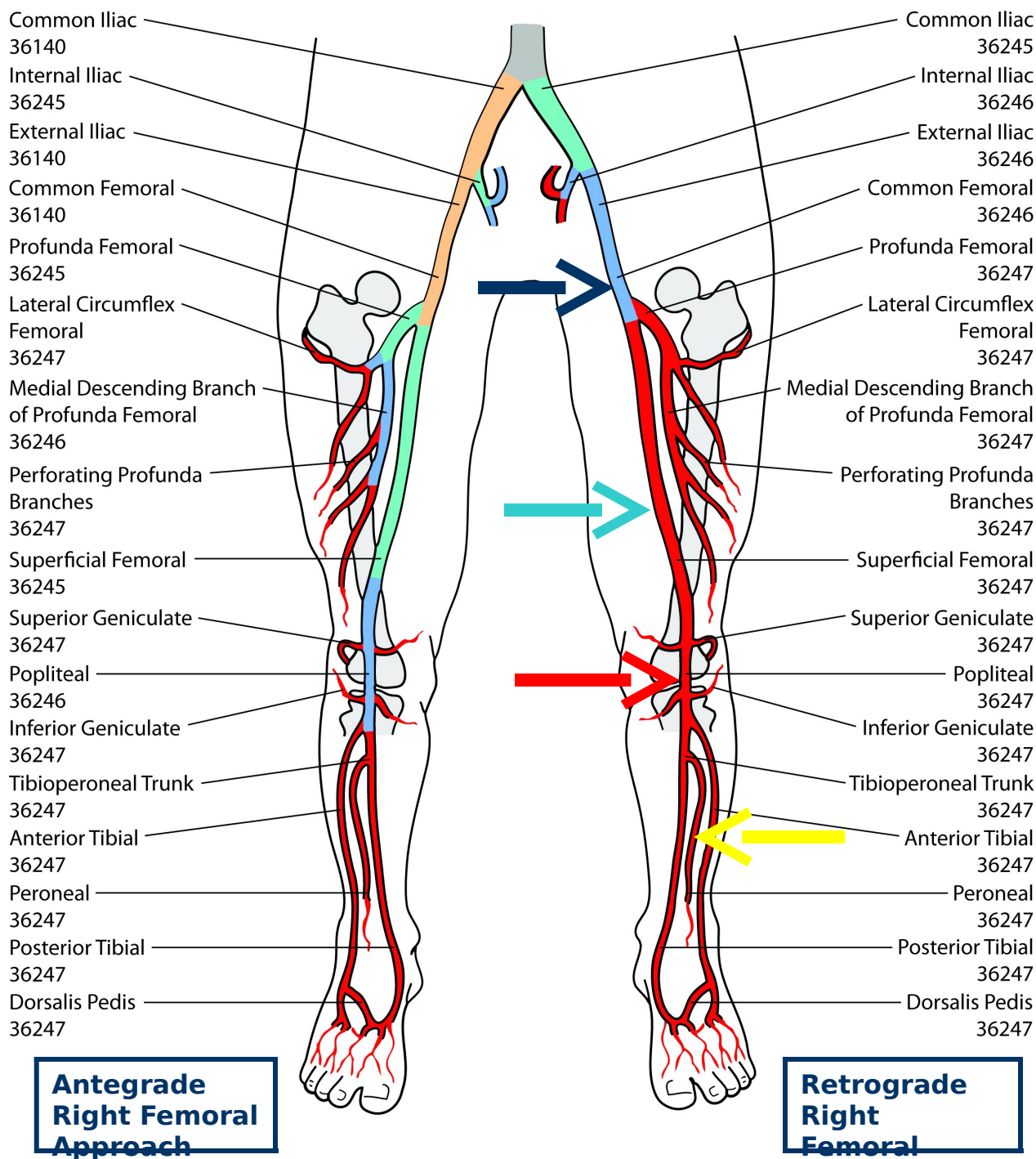


## Case #3

- Patient with known 10cm SFA occlusion. Antegrade puncture in CFA with attempted subintimal recanalization failed. Patient is placed prone and popliteal access obtained. SFA occlusion is traversed using a Cross-It XT guidewire and a Safe-Cross catheter. The wire is snared into the CFA sheath with angioplasty performed (5mm balloon with hemodynamically significant residual stenosis) followed by placement of a 5mm stent graft. Embolization is seen into the peroneal on completion angiogram. This is treated with suction thrombectomy via CFA access. Follow-up angiography shows patency of the peroneal. Closure devices are placed at both sites.



# Lower Extremity Arterial Anatomy Right Transfemoral Approach



- Non-selective
- First order
- Second order
- Third order



## Case #3 Answer

---

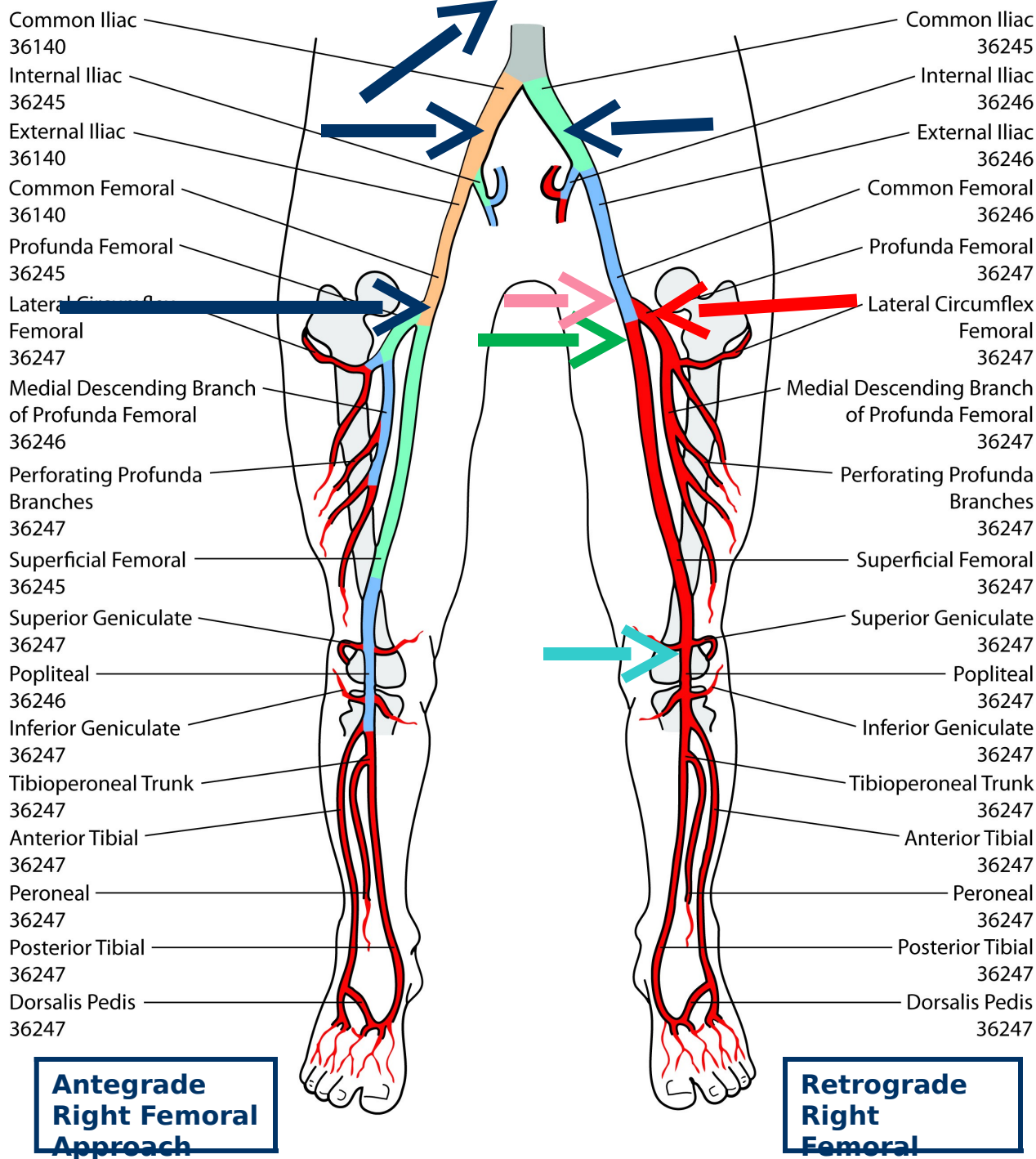
- 37226 – SFA stent placement (includes catheter placements, recanalization, angioplasty, stent placement, imaging and closure device placements)
- 37186 – Secondary arterial thrombectomy in the peroneal artery



## Case #4

- Patient with recent CTA showing 90+% stenoses of the right renal artery, both common iliac arteries, the common femoral artery(CFA) extending into the profunda(PFA) and superficial femoral arteries(SFA) and an occlusion of the popliteal artery. Via right femoral access, aortogram and left leg runoff is performed confirming all these lesions. Right renal angioplasty (pre-dilation with a 3mm balloon) is followed by 6mm stent placement for suboptimal results. Bilateral common iliac stent placement is performed. Kissing angioplasty from the CFA into the proximal SFA and PFA . The proximal SFA required stent placement for dissection. The separate popliteal occlusion is treated with laser atherectomy.

# Lower Extremity Arterial Anatomy Right Transfemoral Approach



- Non-selected
- First order
- Second order
- Third order



## Case #4 Answer

---

- 36245 – Catheter placement into renal artery
- 37205 – Stent placement into renal artery
- 75960 – Stent placement S&I
- 37221 – Right Iliac stent placement
- 37221-59 – Left Iliac stent placement
- 37227 – Left CFA angioplasty, PFA angioplasty, SFA angioplasty and stent placement, popliteal laser atherectomy and all catheter placements



# Other Angioplasty Procedures



# Angioplasty

- Uses a balloon to dilate a narrowed vessel (this includes cryo, cutting, compliant, non-compliant, etc. types of balloons)
- May be percutaneous or open technique
  - Peripheral Artery (for Brachiocephalic arteries only)
    - 75962 - Initial vessel
    - 75964 - Each additional vessel
      - (even if there are two separate punctures, there is still only one initial brachiocephalic angioplasty S&I per human body)
  - Renal or Visceral Artery (including Aortic Angioplasty)
    - 75966 - Initial vessel
    - 75968 - Each additional vessel
  - Venous (including peripheral, central, portal, pulmonary veins)
    - 75978 - Initial and each additional vessel



# Angioplasty

Surgical codes specific to approach and specific artery:

- Percutaneous (involves an 11 blade to access through the thick skin, but no multilayered closure)
    - 35471 - Renal or visceral artery
    - 35472 - Aorta
    - 35475 - Brachiocephalic trunk or branches
  - Open (documentation of surgical incision and multilayered closure of the access site)
    - 35450 - Renal or visceral artery (C)\*
    - 35452 - Aorta (C)
    - 35458 - Brachiocephalic trunk or branches
- \*(C) Is inpatient only procedure for Medicare patients





# Angioplasty

- Angioplasty is coded per vessel treated (except the femoral popliteal system), not per stenosis. The tibioperoneal system is now limited to three vessels.
- Do not need to be successful to charge for angioplasty
- CAN code for angioplasty and separate stent in the same site/vessel in the brachiocephalic arteries, visceral, and renal arteries and veins (use new bundled codes for lower extremity revascularization)
  - If intent is to perform a successful angioplasty with an adequately sized balloon, however there is a vessel rupture, 30% residual stenosis (recoil, residual), 5mm residual gradient, flow-limiting dissection or acute occlusion, then both may be coded as these are indications for coding both PTA and stent placement. This does NOT apply to lower extremities.



# Angioplasty

- Bill separately for...
  - Catheter placement (however NOT for lower extremities)
  - Diagnostic angiography (will require -59 modifier to let CMS know this was a true diagnostic study)
- Do not bill separately for angiography related to...
  - Guiding shots
  - Road mapping/Trace subtraction/
  - Positioning
  - Sizing
  - Localization
  - Completion
- These rules apply to stent placement in similar vessels



# Intracranial Angioplasty, Atherosclerotic

- Intracranial angioplasty and intracranial stent placement are non-covered services by CMS. \*Effective 2/2007 CMS recommends 37799 for intracranial angioplasty and stent placement for treatment of atherosclerotic stenoses >50%, but the physician and hospital must be part of Class B IDE study. This was reconfirmed in 2008.
  - 61630 – Intracranial angioplasty for atherosclerosis
  - 61635 – Intracranial stent for atherosclerosis (includes preliminary angioplasty)
- (These codes include ipsilateral catheter placement, initial and follow-up imaging, along with the intervention. If the diagnostic study shows that the intervention is not indicated, bill the diagnostic studies and catheter placements only. Most of the time the patient will already have a diagnostic study.)

*\*Medicare Claims Processing Manual, Chapter 32 – Billing Requirements for Special Services,*



# Intracranial Angioplasty

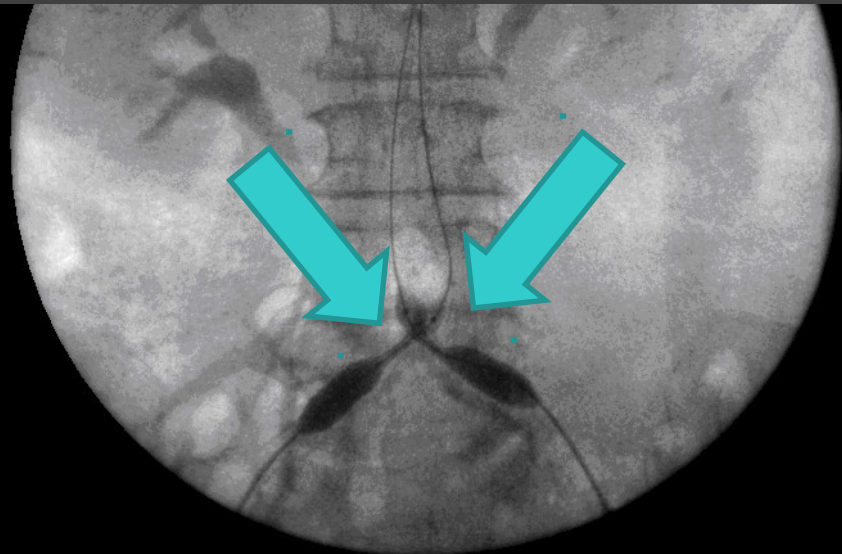
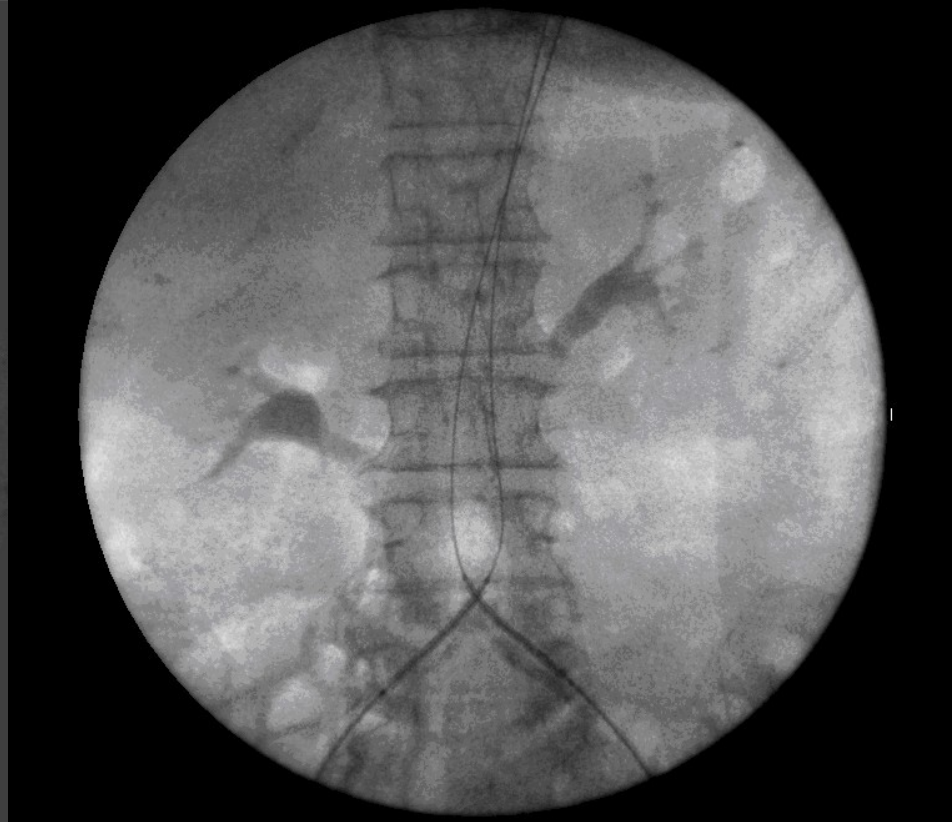
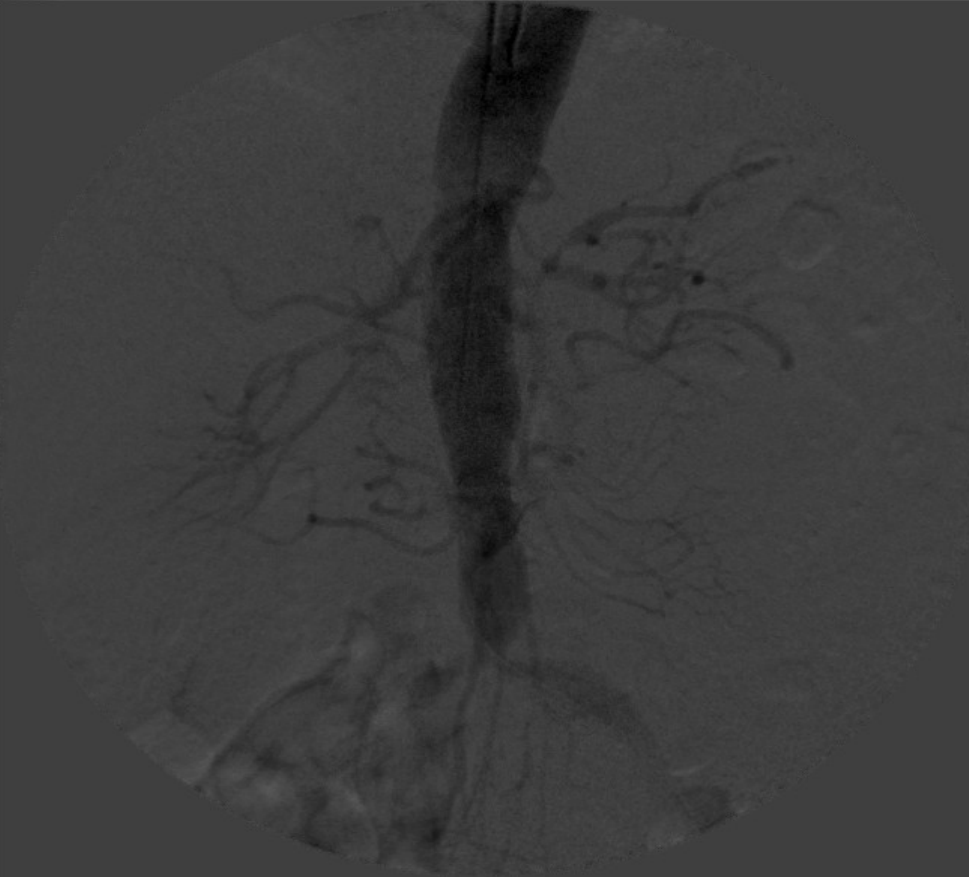
- 61640 – *Intracranial balloon angioplasty for vasospasm, initial vessel*
- 61641 – *Intracranial balloon angioplasty for vasospasm, each additional vessel in the same vascular family*
- 61642 – *Intracranial balloon angioplasty for vasospasm, each additional vessel in a different vascular family*

(These codes include catheter placement, intra-procedural imaging, roadmapping, vessel measurements, and guidance, along with the intervention and follow-up imaging. If a diagnostic study is needed the day of the intervention, it is separately billable even if performed on the same date of service. Due to the rapidly changing clinical status in these patients it is common to have to perform repeat diagnostic studies. These codes remain non-covered for Medicare at this time).



## Case #5

- Percutaneous puncture of the right common femoral artery is followed by sheath placement and imaging of the aorta and runoff vessels from high and low catheter positions. Selective catheter placement into both renal arteries with contrast injections and imaging is performed. Diagnostic angiography shows near occlusion of the common iliac arteries bilaterally with 90% right and 70% left renal artery stenoses. Separate sheath is placed in the left femoral artery and kissing iliac angioplasty is performed. Following this, bilateral renal angioplasty is performed via the right femoral sheath with excellent results.





## Case #5 Answer

---

- 36245-50 – Catheter placement in right and left renal arteries
- 75724-59 – Renal angiography, bilateral selective, S&I
- 75716-59 – Bilateral extremity angiography, S&I
- 35471-50 – Bilateral renal angioplasty
- 75966 – Right renal angioplasty, initial vessel, S&I
- 75968 – Left renal angioplasty, additional vessel, S&I
- 37220 – Right iliac angioplasty
- 37220-59 – Left iliac angioplasty





# Other Atherectomy Procedures





# Atherectomy 2011

- Percutaneous or Open, including S&I for procedure
  - **Supra-Inguinal**
    - 0234T – Renal artery
    - 0235T – Visceral artery
    - 0236T – Aorta
    - 0237T – Brachiocephalic trunk or branches
    - 0238T – Iliac artery
    - 37799 – Venous
  - **Infra-Inguinal**
    - 37225 – femoral/popliteal, includes angioplasty
    - 37229 – tibioperoneal, initial vessel, includes angioplasty
    - 37233 – tibioperoneal, additional vessel, includes angioplasty



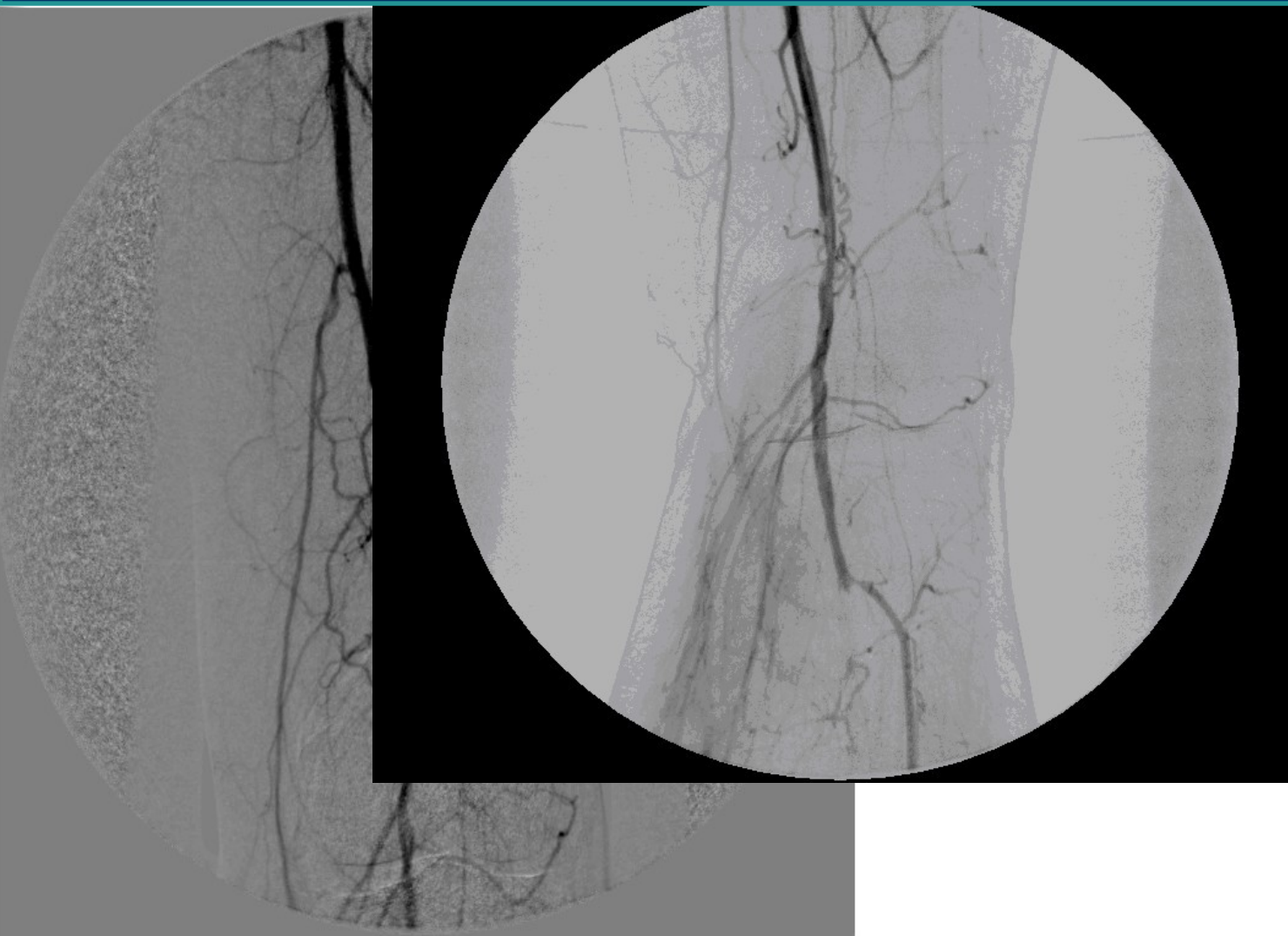
# Supra-Inguinal Atherectomy Rules

- Bill separately in addition to 2011 “T” atherectomy codes:
  - Catheter placement
  - Diagnostic angiography
  - Angioplasty and/or Stent placement to treat the same or different lesion in the same or in different vessels
  - Closure device placement
- Atherectomy is per vessel treated, not per stenosis. Same rules as angioplasty and stent placement.
- If multiple stenoses in separate supra-inguinal vessels in the same territory are treated with atherectomy, use the same atherectomy T-codes multiple times as needed for the additional vessels treated (e.g., use 0238T up to 3 times in unilateral iliac territory, use 0236T once for the aorta, use 0234T twice if for bilateral renals).



## Case #6

- Recent angiogram shows short external iliac occlusion, 3cm occlusion of the distal left SFA with tibial/peroneal trunk occlusion extending into the peroneal and posterior tibial arteries. Via brachial approach, a wire was advanced across the occlusion of the iliac, SFA and through the tibial/peroneal occlusions. Laser atherectomy was performed in these vessels. The posterior tibial artery required stent placement while post laser angioplasty was performed at all three locations. Closure device was placed.





## Case #6 Answer

---

- 0238T – Atherectomy in the external iliac artery
- 37225 – Atherectomy in the superficial femoral artery
- 37231 – Stent placement with atherectomy in the posterior tibial artery, initial tibial/peroneal artery
- 37233 – Atherectomy in the peroneal artery, additional tibial/peroneal artery



# Other Vascular Stent Procedures



# Non-Coronary/Carotid/Vertebral/ Lower Extremity Stent Placement Rules

- Percutaneous
  - 37205 – stent placement initial vessel (not coronary, vertebral, carotid, cerebral or lower extremity artery)
  - 37206 – stent placement each additional vessel (not coronary, vertebral, carotid, cerebral or lower extremity artery)
- Open
  - 37207 – stent placement initial vessel(not coronary, vertebral, carotid, cerebral or lower extremity artery)
  - 37208 – stent placement each additional vessel(not coronary, vertebral, carotid, cerebral or lower extremity artery)
- S&I
  - 75960 – Transcatheter introduction of stent percutaneous or open, not coronary, vertebral, carotid, cerebral or lower extremity artery, S&I



# Carotid Stent Placement

- 37215 – Carotid cervical stent placement with embolic protection
- 37216 – Carotid cervical stent placement without embolic protection
  - 37215 & 37216 include:
    - Ipsilateral selective catheterization
    - Ipsilateral carotid cervical and cerebral artery S&I
    - All road-mapping, guiding shots and follow-up images
    - All angioplasties within the region of stent deployment
    - 37215 remains an inpatient **C-status indicator** procedure (1/2011)
  - Medicare expects you to abandon the case if EPD not possible
  - Code 75962 not appropriate as the carotid artery is not a peripheral artery





# Common Carotid and Vertebral Stent Placement

- 0075T – Percutaneous placement extracranial vertebral or intrathoracic common carotid stent, initial vessel
  - Includes radiological S&I, imaging and catheter placement
- 0076T – Percutaneous placement of extracranial vertebral or intrathoracic common carotid stent, each additional vessel
  - Includes radiological S&I, imaging and catheter placement
  - This is an add-on code to 0075T
- Codes 0075T and 0076T expire January 2015.



# Q&A

---

- Questions?